

AMENDMENT
U.S. Appl. No. 09/042,666

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30. An optical device, comprising;
an ultrashort-optical pulse source generating ultrashort optical pulses; and
wavelength conversion device comprised of an optical parametric generation
portion having an optical parametric generation threshold energy level of less than one
nanojoule.--

REMARKS

The present Amendment is in response to the Office Action dated January 22, 2001.
Filed together with this Amendment is the required petition for a three month extension of time.
In view of the foregoing amendments and the comments which follow, favorable reconsideration
is respectfully requested.

In the Office Action, the Examiner has continued to reject claims 1-13 of the subject
application under 35 U.S.C. § 103, as being unpatentable over the '307 patent to Arbore. In the
case of claims 12 and 13, the Arbore patent is combined with the '707 patent to Huber.

Applicants continue to insist that the Arbore patent is not particularly relevant to the
invention as claimed, although the erroneous disclosure in the Arbore patent linking the
mechanism of pulse compression to optical parametric interaction may make it seem so.
Applicants have also previously focused upon the fact that the Arbore device is not implemented
in waveguide form. Applicants wish to again focus on this latter feature in the present response.

Specifically, the Examiner indicates in his Office Action that he believes that column 6,
lines 44-60 of Arbore suggest waveguide-form QPM OPG elements. Setting aside for the
moment that QPM OPG elements do not in fact exist, Applicants would again stress that there is

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absolutely no disclosure in this section, or anywhere else within the Arbore patent, which discloses or suggest an optical parametric generation device in optical waveguide form. Again, it is apparent that Arbore's drawings, particularly figure 5, illustrate a bulk crystal. Therefore, the manner in which the Examiner finds this reference to "suggest" an optical waveguide is unknown. In any event, this reference clearly does not disclose or suggest the use of an OPG element in waveguide form. The same can be said for the '041 Field patent which the Examiner refers to but does not rely upon.

The advantages which Applicants have discovered with respect to waveguide form OPG devices are described in great detail in the present specification. Specifically, with the present invention, the threshold for OPG can be lowered into an energy range compatible with current state of the art ultrashort-pulse oscillators. This advantage obviates the need for complex dual-laser systems employed according to the prior art.

Applicants are aware that the specific advantage of waveguide-form OPG elements has not been previously subject to specific claims of the subject application. Accordingly, Applicants are adding new claims 29 and 30 to more specifically focus upon this advantage. Claim 29 is cast in terms of the OPG threshold for a given pumped pulse duration, and is supported by the specification for example at pages 8 and 9, and by Figure 3. Claim 30 is specific to sub-nanojoule OPG thresholds.

In view of the foregoing, favorable reconsideration as to claims 1-13 is respectfully requested at the present time. In addition, favorable consideration of new claims 29 and 30 is believed to be in order, given that the prior art of record contains absolutely no disclosure of a

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device as now claimed in this fashion. Should the Examiner have any questions concerning the subject case, he invited to contact the undersigned attorney at the local telephone number listed below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Richard C. Turner', with a long horizontal flourish extending to the right.

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